

REQUEST FOR RECONSIDERATION

Claims 1-2 and 4-17 remain active in this application.

The claimed invention is directed to a graft polyol having a bimodal particle size distribution, a method for preparing a graft polyol as well as a polyurethane comprising the same.

Graft polyols have been used in the preparation of polyurethane foams to increase the hardness of the resulting polyurethane foam. Graft polyol addition can have an adverse effect on cell opening behavior and flow behavior in the foam mold such that graft polyol containing polyurethanes having good cell opening behavior and flow behavior are sought.

The claimed invention addresses the problem by providing a graft polyol comprising small particles and large particles having a bimodal particle size distribution. Applicants have discovered that a graft polyol having a bimodal particle size distribution in which the **peaks do not overlap** having a small particle and large particle distribution as claimed, provides for advantageous properties when incorporated into a polyurethane composition. Such a graft polyol is nowhere disclosed or suggested in the cited prior art of record.

The rejections of claims 1, 2 and 4-17 under 35 U.S.C. 112, second paragraph and of claims 16 and 17 under 35 U.S.C. 112, second paragraph are respectfully traversed.

Applicants respectfully submit that the metes and bounds of the term “peaks....do not overlap” are clear to those of ordinary skill in the art.

As evidence that the term “do not overlap” would be well understood by those of ordinary skill in the art, applicants enclose herewith the declaration of Dr. Daniel Freidank, a researcher for BASF, the assignee of the above-identified application.

Dr. Freidank has been a researcher in the field of polyurethane research and development since 2003. Dr. Freidank also supplied an evidentiary declaration on July 26, 2007.

Dr. Freidank provides **his opinion**, that the phrase “that the peaks of the large and small particles measured by the Fraunhofer diffraction method in combination with polarization intensity differential scattering do not overlap” means that the data measured between the peaks are below the background-noise, or, with other words, between the peaks is an area of measurements not larger as the background-noise. Dr. Freidank further opines that polarization intensity differential scattering is an established method for determining the particle size in the range of the graft polyols claimed and that the Laser Diffraction Particle Size Analyzer LS 230 is commonly used for these measurements. Dr. Freidank concludes that the phrase “that the peaks of the large and small particles measured by the Fraunhofer diffraction method in combination with polarization intensity differential scattering do not overlap” **is clear for the person skilled in the art.**

Thus, applicants have provided further evidence in the form of the opinion declaration of Dr. Daniel Freidank that the claim term “that the peaks of the large and small particles measured by the Fraunhofer diffraction method in combination with polarization intensity differential scattering do not overlap” is clear for the person skilled in the art.

While the examiner has expressed his confusion as to the meaning of the term based on his inability to determine when a peak begins or ends, such confusion does not render the claim indefinite, as Dr. Freidank has opined that the term is clear for the person skilled in the art. The Freidank declaration is offered as evidence that the claim term is not indefinite. The examiner’s personal interpretation as to the meaning of the term must take into consideration the submitted opinion declaration.

In contrast, the examiner has provided no reasoning or evidence as to why it is necessary to determine when a peak begins or ends in order to understand the metes and bounds of the claims.

As to the rejection of claims 16 and 17, Dr. Freidank's declaration opines that polarization intensity differential scattering is an established method for determining particle size and that the Laser Diffraction Particle Size Analyzer LS 230 is commonly used for these measurements. As such the metes and bounds of claims 16 and 17 which recite the use of a light scattering method as well as reciting specific light scattering methods are clear to those of ordinary skill in the art. Withdrawal of the rejections under 35 U.S.C. 112, § second paragraph is respectfully requested.

The rejection of claims 1, 2 and 4-17 under 35 U.S.C. § 103(a) over EP 786,480 in view of Perry et al. (U.S. 6,127,443) is respectfully traversed.

None of the cited prior art of record discloses or suggests a graft polyol having a bimodal particle size distribution in which the peaks of the large and small particles do not overlap.

EP '480 merely describes a polymer polyol having a relatively small and having a **narrow particle size distribution** (page 1, lines 3-5 and page 3, lines 2-7). In describing a polymer polyol having a small particle size and a narrow particle size distribution, there is no suggestion of a graft polyol having a bimodal particle size distribution in which the peaks do not overlap. A bimodal particle size distribution is not a narrow particle size distribution.

Perry et al. merely describes a polyol component which is **at least bicompositional** having at least one high **molecular weight** portion and one low **molecular weight** portion (column 3, lines 17-19). The molecular weight is a characterization of the length of the polymer chains of the polymer and says nothing about the particle size of polymer particles. There is no disclosure in this reference as to a bimodal **particle size** distribution in which the peaks do not overlap.

A recitation of a bicompositional composition is not a suggestion of a bimodal particle size distribution. The term bicompositional refers to the qualitative nature of the

composition components such that there are components of **two different compositions**. A bimodal particle size describes the average particle size of the particles of the composition such that there are two peaks, describing the **particle size distribution**. Differences in composition do not suggest differences in particle size distribution.

Moreover, even if Perry et al. were to have described a bimodal particle size distribution, there is no motivation to modify the polymer polyol of EP '480 to provide a bimodal distribution as to do so would be contrary to the express teachings of EP '480.

EP '480 describes a polymer polyol having a small particle size and a **narrow particle size distribution**. A narrow particle size distribution is a statement as to the desirability of uniform properties for the polymer particles. A bimodal particle size is inconsistent with a narrow particle size distribution as a bimodal particle size has two particle size distributions and therefore is nearly the opposite of a narrow particles size distribution. It would not be possible to modify the disclosure of EP '480 and provide a bimodal particle size distribution as to do so would destroy the essential teachings of the primary references. Obvious modifications can not fly in the face of the express disclosure of the reference. As such the combination of cited references does not make obvious a graft polyol having a bimodal particle size distribution.

In contrast, the claimed invention is directed to a graft polyol having small and large particles having a bimodal particle size distribution in which the peaks of the large and small particles do not overlap.

While the examiner asserts that a blend of polymers is suggestive of a bimodal particle size distribution, applicants again remind the examiner that the secondary reference suggests the use of two polymer composition, not a two polymers having different particle size distributions. Moreover by combining the teachings of the two references, one would use two polymers **of the same particle size distribution**, providing a bicompositional polyol

having a **narrow particle size distribution**. As the combined teachings of the cited prior art fails to disclose or suggest a bimodal particle size distribution in which the peaks do not overlap, the claimed invention is clearly not obvious from these references and accordingly withdrawal of the rejections under 35 U.S.C. § 103(a) is respectfully requested.

Applicants submit that this application is now in condition for allowance and early notification of such action is earnestly solicited.

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 03/06)

NFO:RLC\la

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



Richard L. Chinn, Ph.D.
Registration No. 34,305